



Neighbourhood Crime and Anti-Social Behaviour

A National Pilot in the UK

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UCL

www.spatial-literacy.org



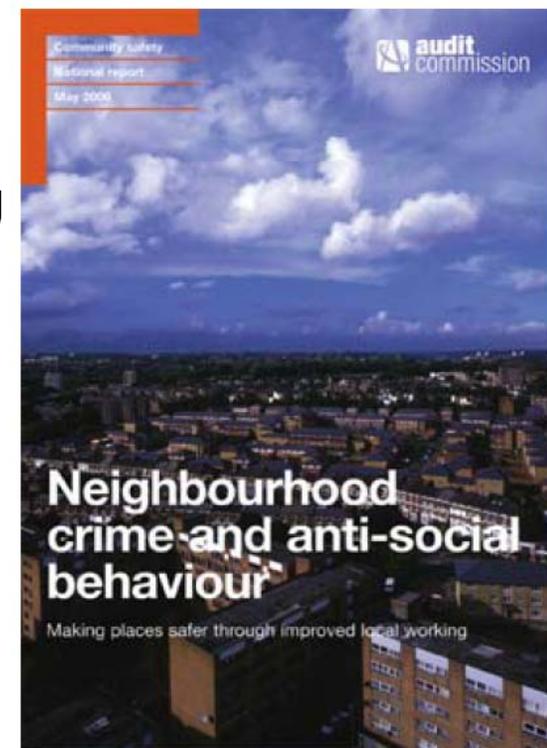
Ninth Crime Mapping Conference

March 28-31, 2007 in Pittsburgh, Pennsylvania, Omni William Penn Hotel



Context

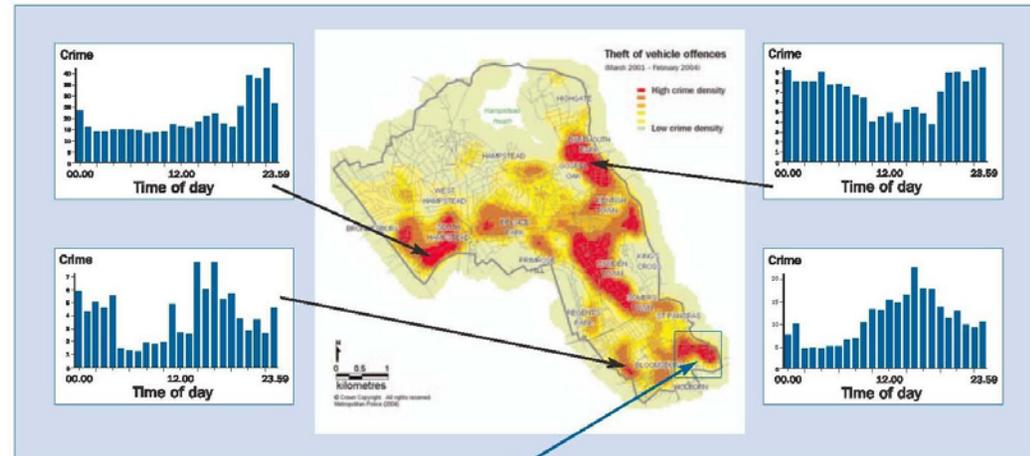
- Mantra of the moment; the local, the neighbourhood, community policing, reassurance policing, citizen focus-policing.
- Remain relatively poor at strategic, intelligence-led, evidence-driven proactive service provision
- Drive towards local accountability and local / neighbourhood level service delivery incorporating the best practice of the private sector
- Government Policing White Paper advocates the use of 'market analysis tools'
- Various policing initiatives (national and local) and multiple organisations advising on neighbourhood profiling methods





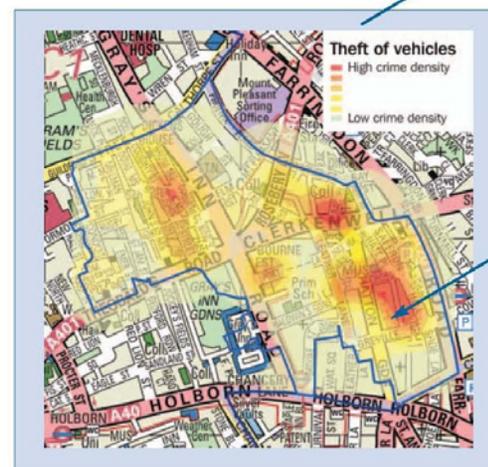
GIS and crime mapping

- Mapping hotspots
- Highlight spatial trends in recorded crime
- Assist in the tactical provision of policing services / the targeting of crime prevention measures
- Rarely community focused



Analysis of vehicle theft hotspots across Camden identified certain problem areas. Analysis of the temporal profiles of crime in these areas revealed that each area had different and specific problems.

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75% of thefts of vehicles in this hotspot (the area highlighted by the blue line) were thefts of two wheeled motor vehicles.



Further analysis revealed the large number of motorbike parking bays in the area and their lack of anchor security fixings.

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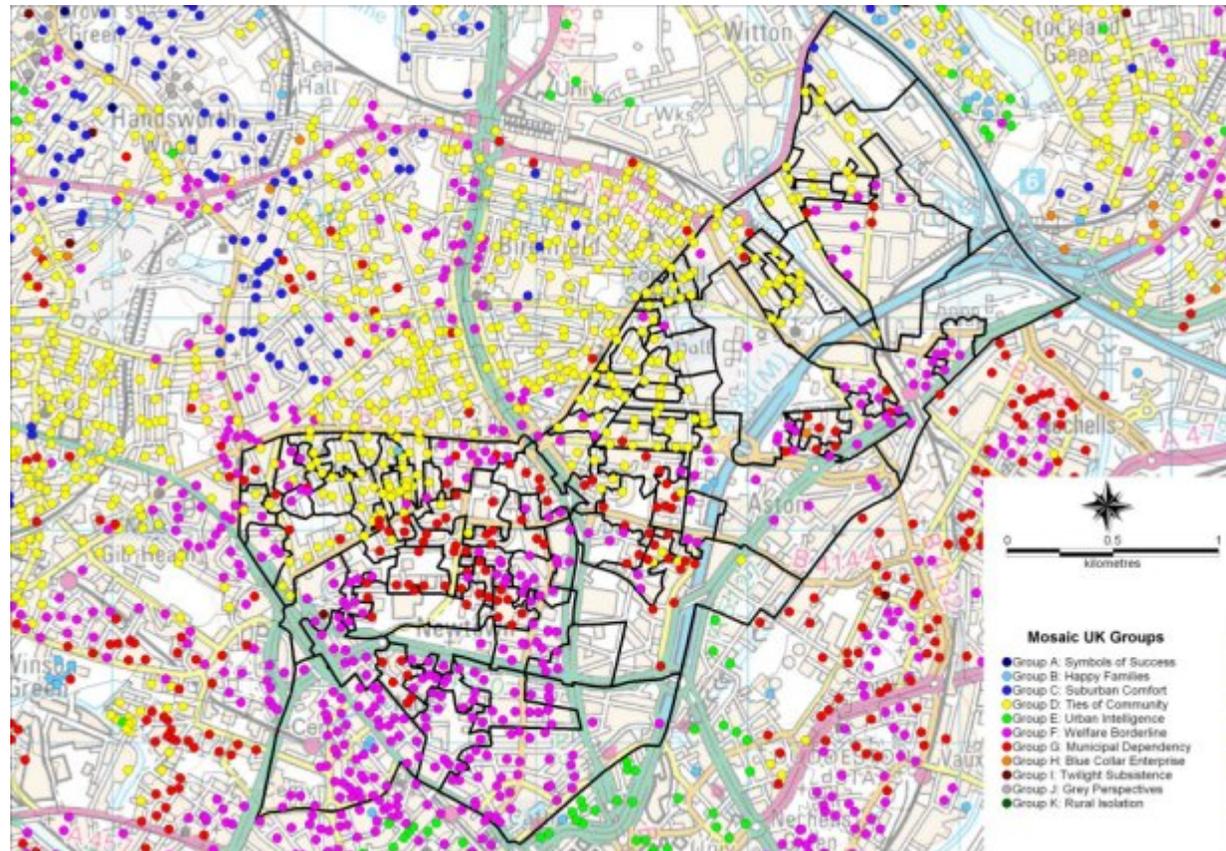
Definitions

geodemographic indicators

small area measures of social, economic and demographic conditions

scale

neighbourhoods as aggregations of unit postcodes





Spatial resolution

Different zones are built using postal geography provided the Royal Mail

Postcode

NG34 5AH

1.7 million postcodes
17 households in each

Postal Sector

NG34 5

9,600 sectors
2,600 households in each

Postal District

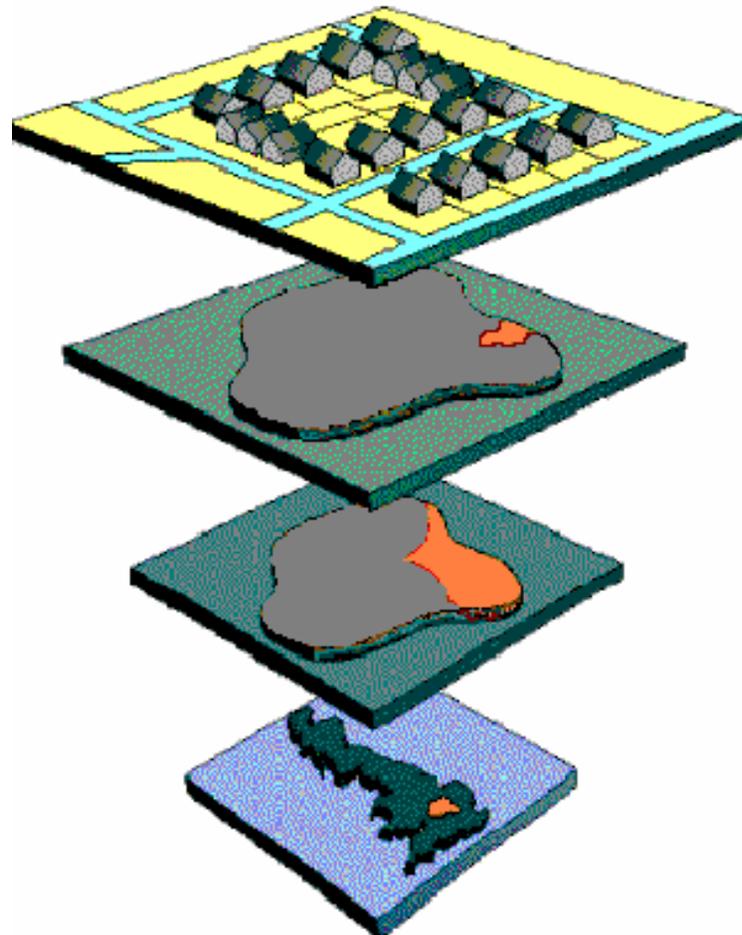
NG34

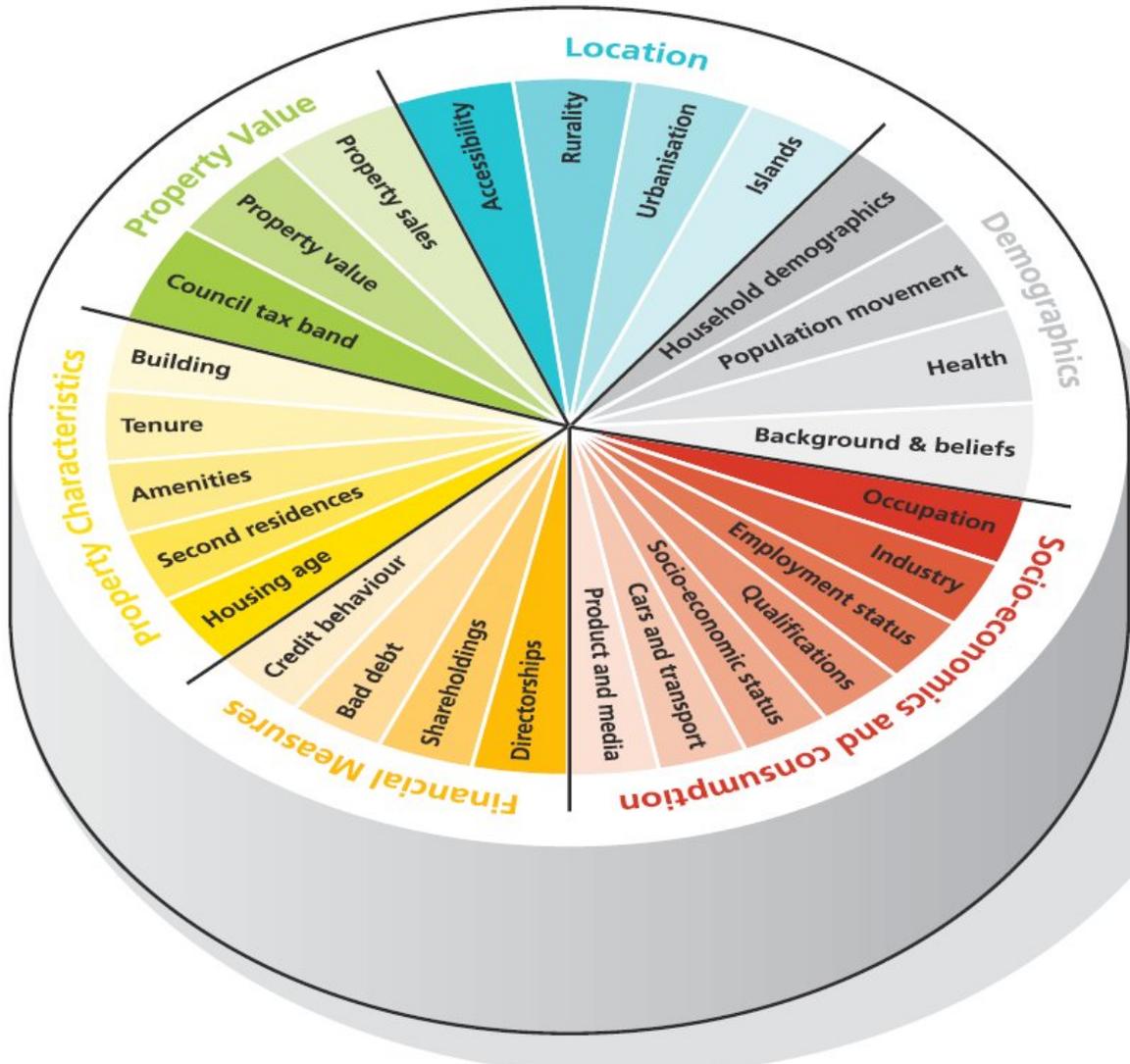
2,700 districts
8,600 households in each

Postal Area

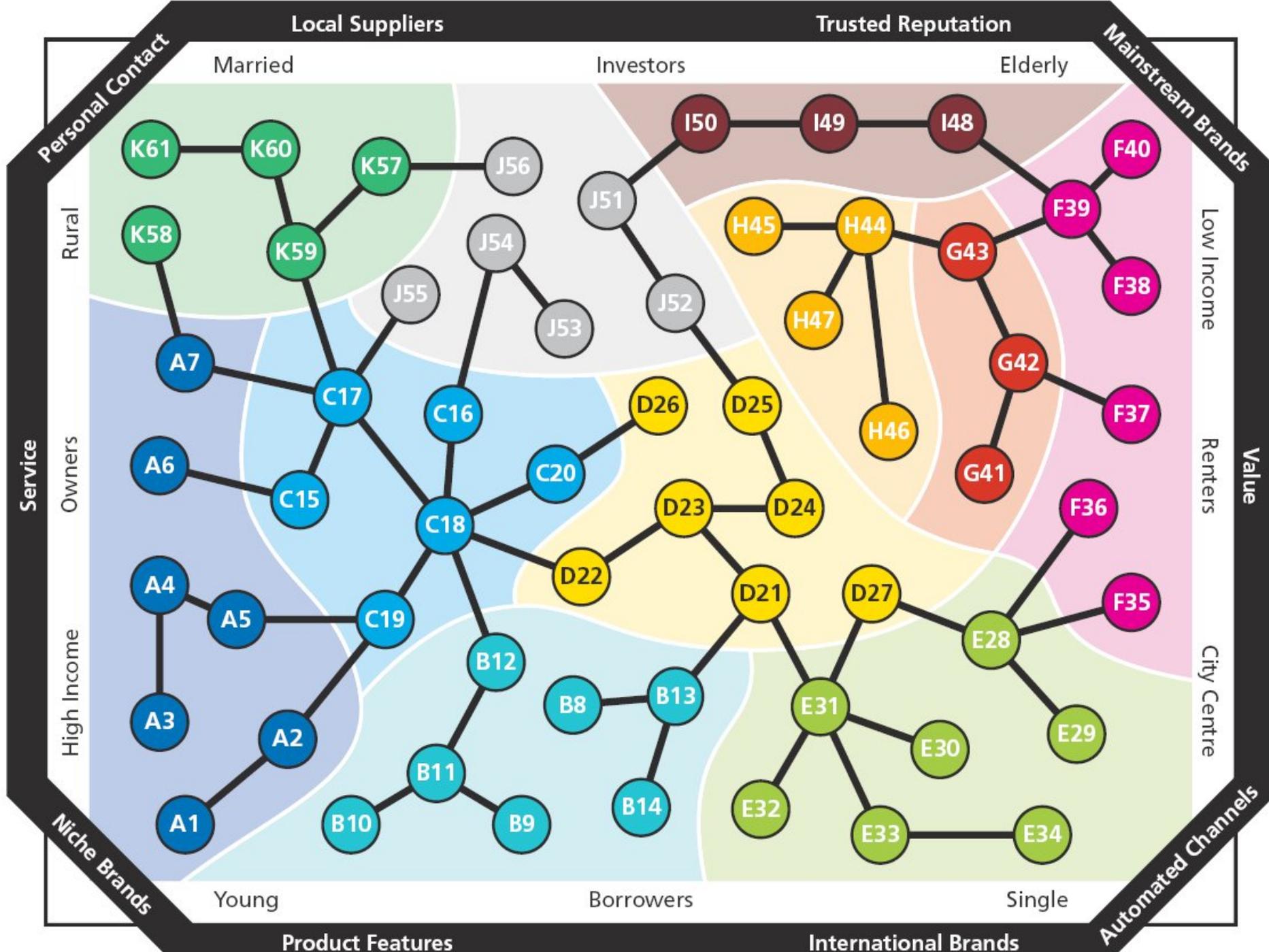
NG

120 areas
194,000 households in each





- Demographics**
 - Household demographics
 - Population movement
 - Health
 - Background & beliefs
- Socio-economics and consumption**
 - Occupation
 - Industry
 - Employment status
 - Qualifications
 - Socio-economic status
 - Cars and transport
 - Product and media
- Financial Measures**
 - Directorships
 - Shareholdings
 - Bad debt
 - Credit behaviour
- Property Characteristics**
 - Housing age
 - Second residences
 - Amenities
 - Tenure
 - Building
- Property Value**
 - Council tax band
 - Property value
 - Property sales
- Location**
 - Accessibility
 - Rurality
 - Urbanisation
 - Islands





Some classifications

National Statistics' *Output Area Classification* (OAC)

http://www.statistics.gov.uk/about/methodology_by_theme/area_classification/

Experian Business Strategies' *Mosaic*

<http://www.business-strategies.co.uk/Content.asp?ArticleID=566>

CACI's ACORN (A Classification of Residential Neighbourhoods)

<http://www.caci.co.uk/acorn/>



J54 : Grey Perspective / Bungalow Retirement



Nottingham Road, Clacton on Sea, CO15 5PG



Hazeldown Road, Teignmouth, TQ14 8QR



Fife Road, Herne Bay, CT6 7RE



Haysom Close, New Milton, BH25 6PN



D24 : Ties of Community / Coronation Street



Cumberland Street, Wallsend, NE28 7SB



Albert Street, Mexborough, S64 9BT



Coronation Street, Carlin How, Loftus, TS13 4DN



Elliott Street, Preston, PR1 7XN

City Living



(2a1) Cardigan Road , Leeds LS6 1EB



(2a1) New York Street, Leeds LS2 7DT



(2b2) Elm Grove Manchester M20 6PQ



(2b2) Caroline Street, Saltaire, BD18 4PW



Hard Pressed / Inner City Adversity



Type 55 – Inner City Adversity



Category 5 – Hard Pressed



Geodemographics for neighbourhood policing

Significant domains of geodemographic analysis:

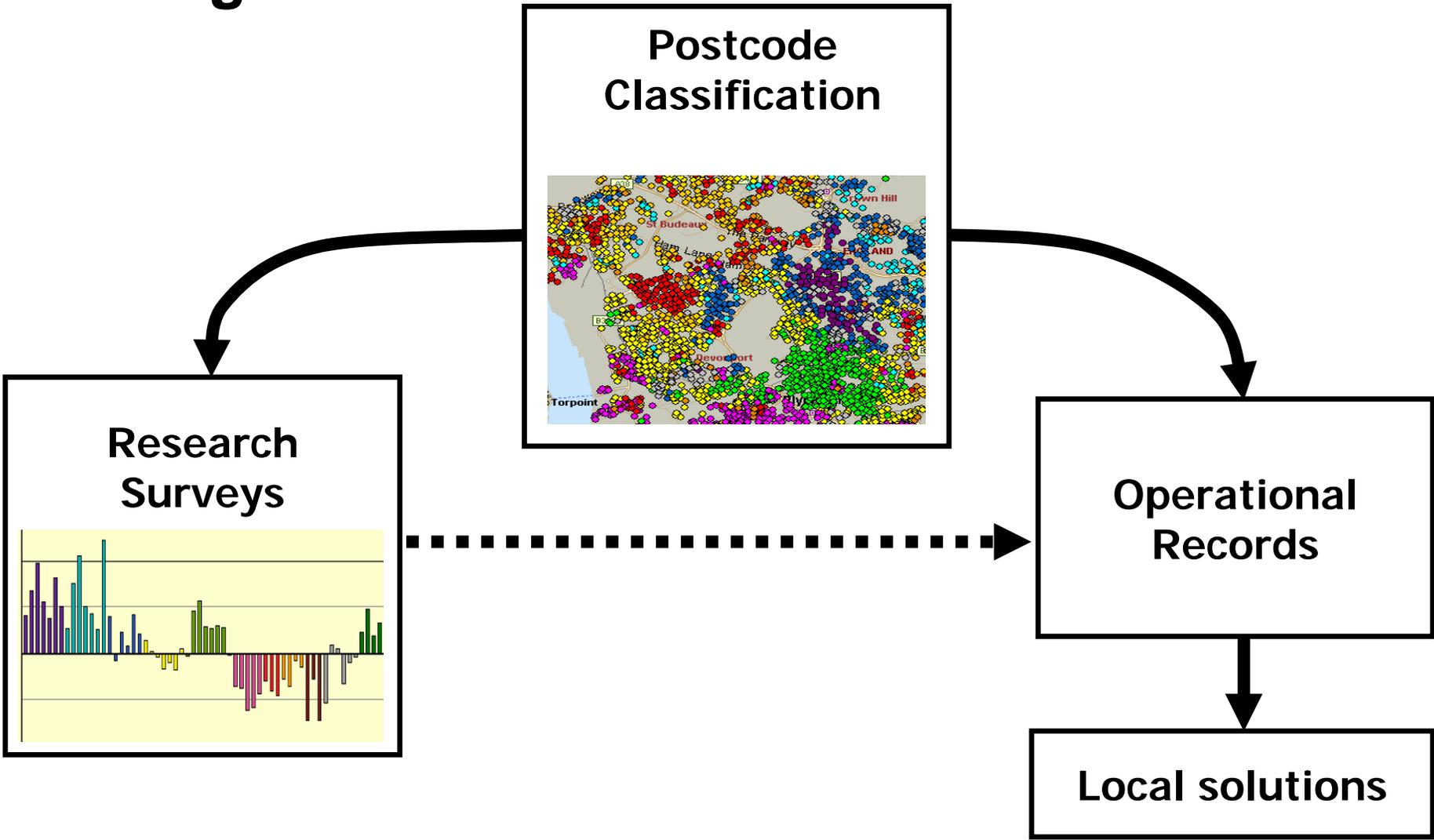
1. Area profiling (e.g. for administrative units)
2. Extrapolation of survey data (e.g. British Crime Survey)
3. Coding operational data sets (e.g. recorded crime)
4. 'Market-Area Analysis'

Specific applications for Neighbourhood Policing:

- a) Developing neighbourhood specific intervention strategies
- b) Targeted reassurance and crime prevention
- c) Performance benchmarking / assessment
- d) Evidence-base of what works in what neighbourhoods
- e) Heuristic frameworks for sharing best-practice



Linkages





Profiles produced for all study areas

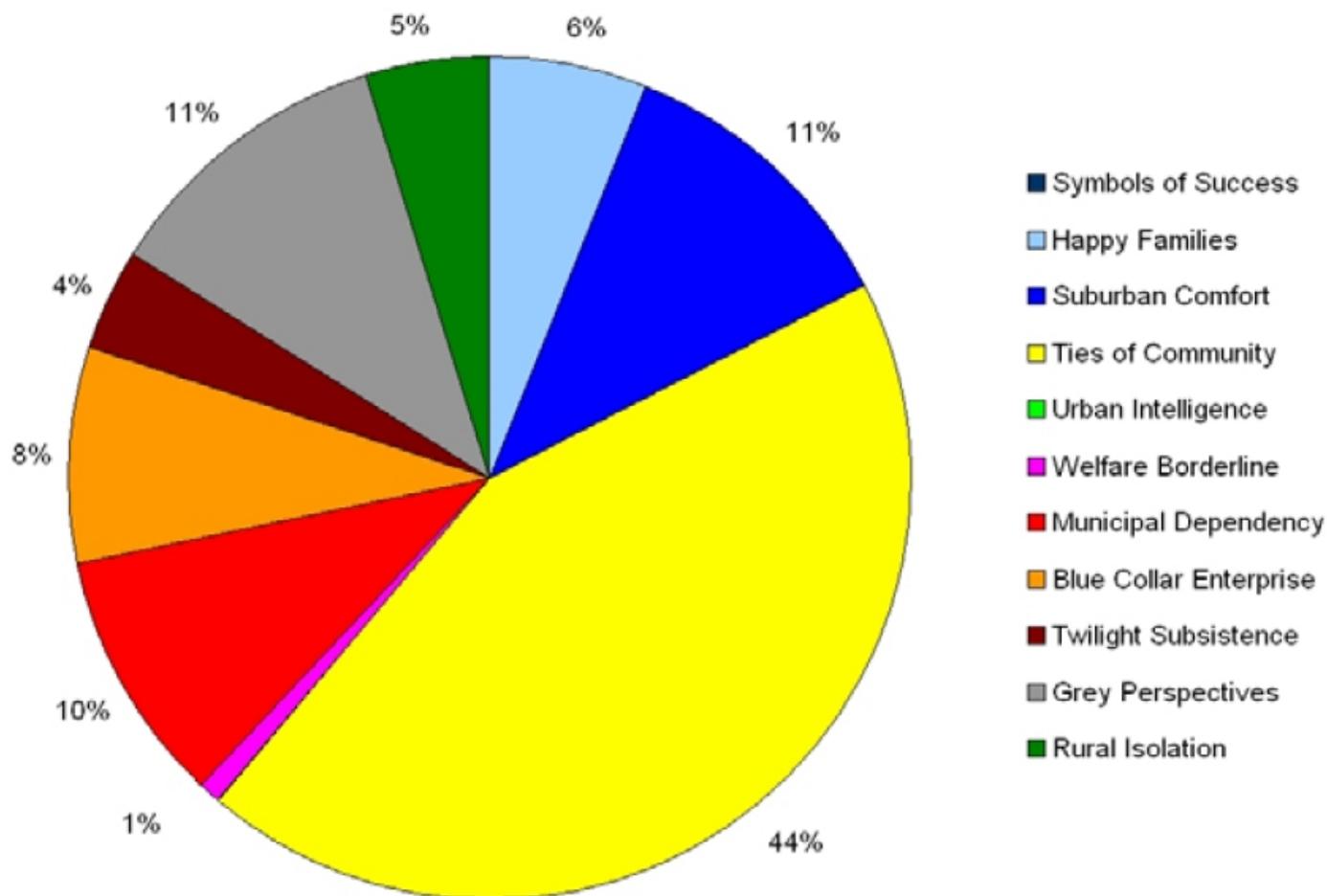


Figure 30: Mosaic UK Group population distribution within Illogan South, Kerrier.



Anfield's neighbourhood composition

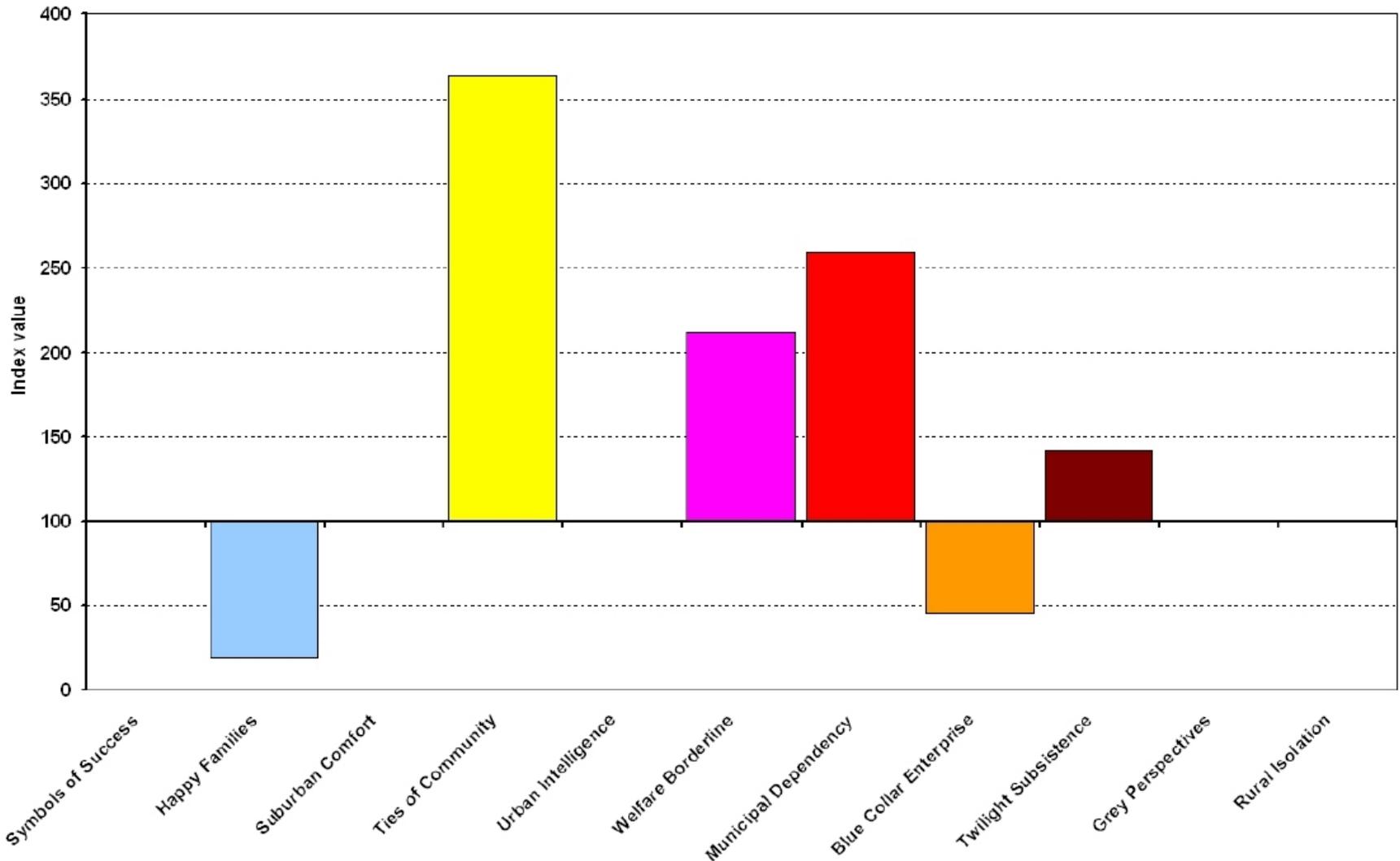
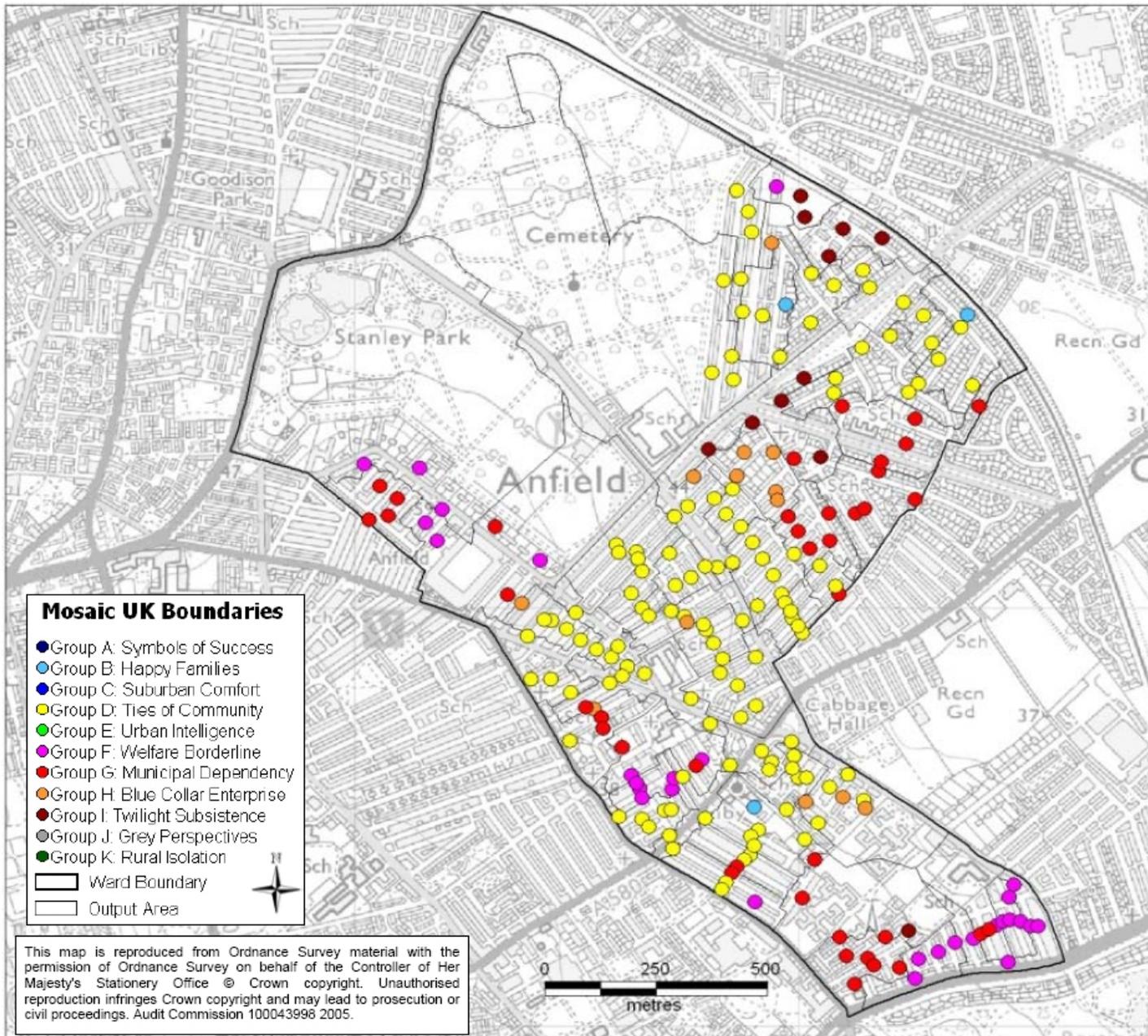
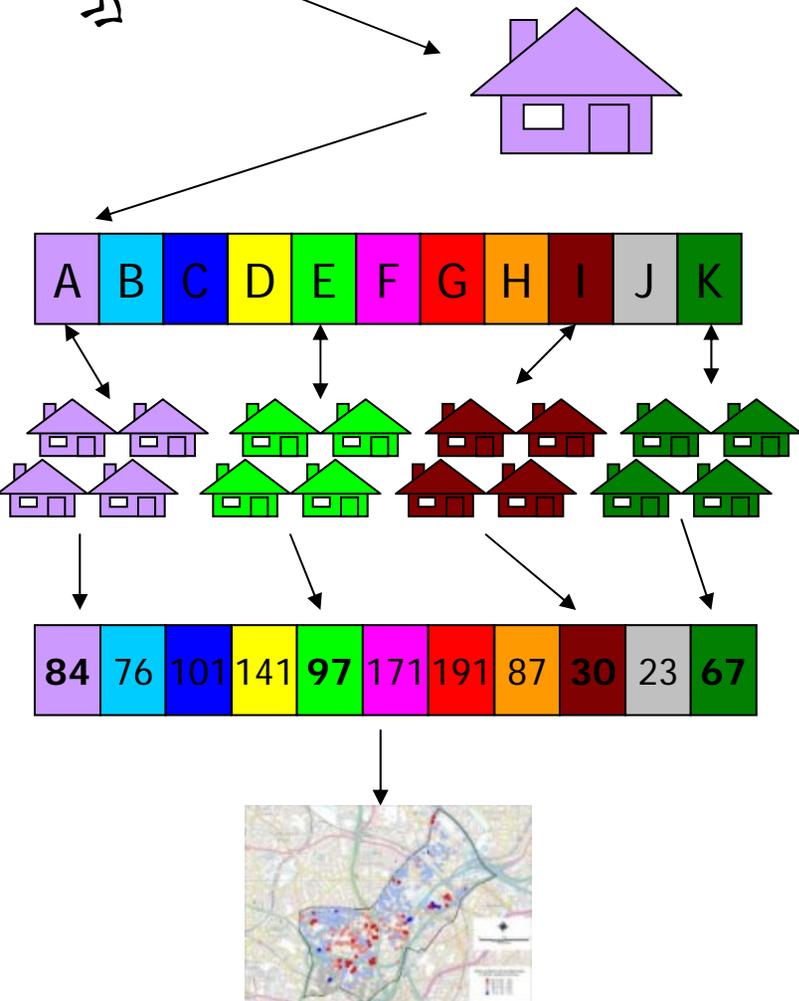


Figure 3: Anfield population index values by Mosaic UK Group, UK base.





Geodemographic coding of surveys



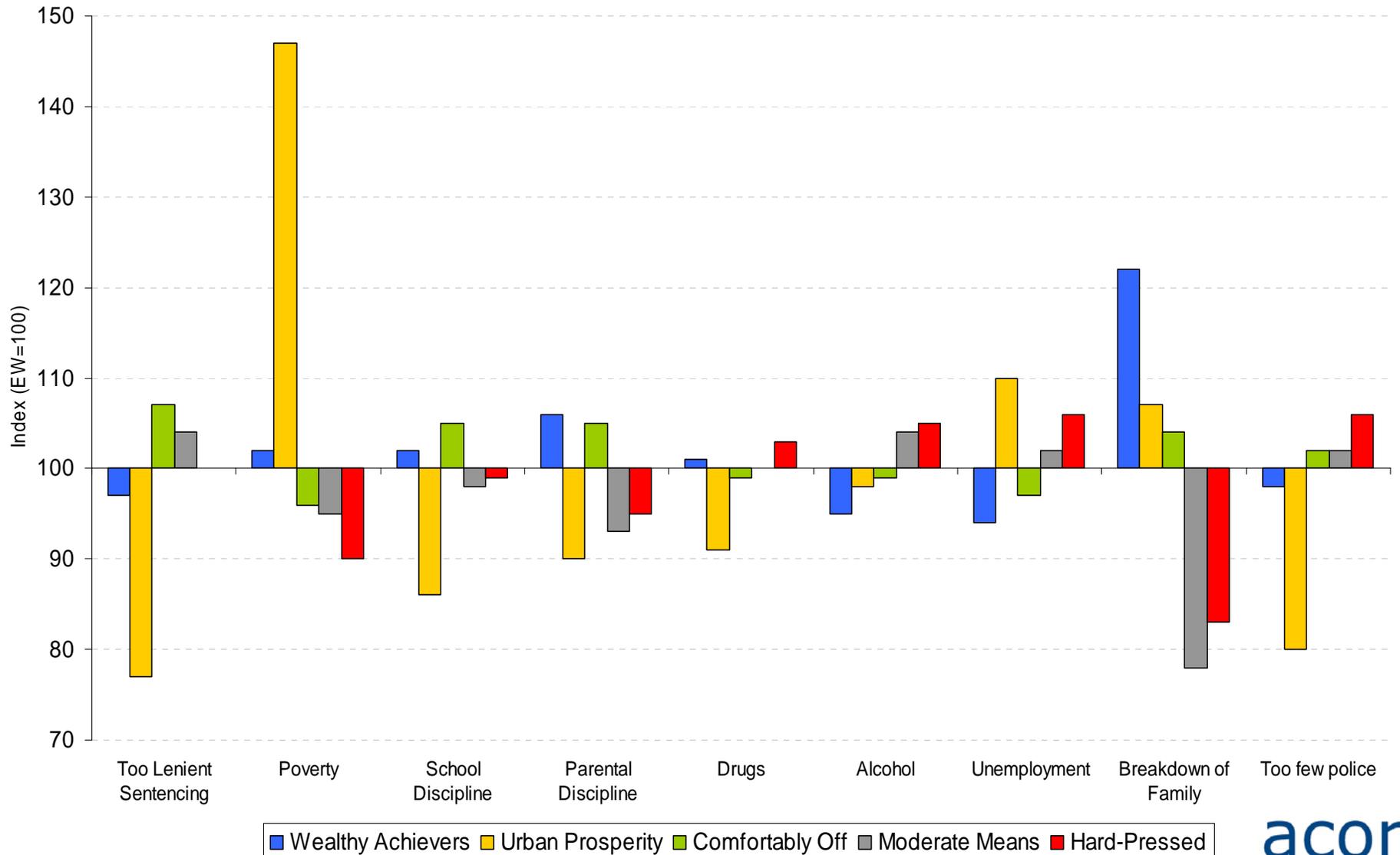
1. Survey sample
2. Respondents referenced by residential postcode
3. Geodemographic code appended to each respondents' postcode
4. Responses collated and summed by geodemographic categories
5. Index values created for each question/response for all 'neighbourhood types'
6. Index values analysed by category or for different geographic regions. Can be mapped to every postcode.



| BCS Question | | How common is/are... | | | Feelings about... | | |
|--------------|-------------------------------|----------------------|--------------------|--------------------|---------------------|---------------------|-------------------|
| | | teenagers?* | rubbish?* | vandals?* | burglary? | physical attack? | neighbours? |
| BCS Response | | <i>Very common</i> | <i>Very common</i> | <i>Very common</i> | <i>Very worried</i> | <i>Very worried</i> | <i>Go own way</i> |
| A | Symbols of Success | 38 | 28 | 36 | 53 | 55 | 84 |
| B | Happy Families | 83 | 58 | 63 | 76 | 87 | 107 |
| C | Suburban Comfort | 59 | 55 | 46 | 92 | 89 | 85 |
| D | Ties of Community | 124 | 139 | 107 | 124 | 124 | 106 |
| E | Urban Intelligence | 75 | 104 | 85 | 93 | 101 | 129 |
| F | Welfare Borderline | 178 | 186 | 237 | 151 | 153 | 130 |
| G | Municipal Dependency | 187 | 181 | 227 | 154 | 149 | 120 |
| H | Blue Collar Enterprise | 138 | 121 | 132 | 110 | 100 | 111 |
| I | Twilight Subsistence | 102 | 91 | 131 | 96 | 110 | 89 |
| J | Grey Perspectives | 49 | 48 | 61 | 66 | 67 | 80 |
| K | Rural Isolation | 9 | 26 | 4 | 50 | 50 | 50 |



Neighbourhood perceptions on the major causes of crime



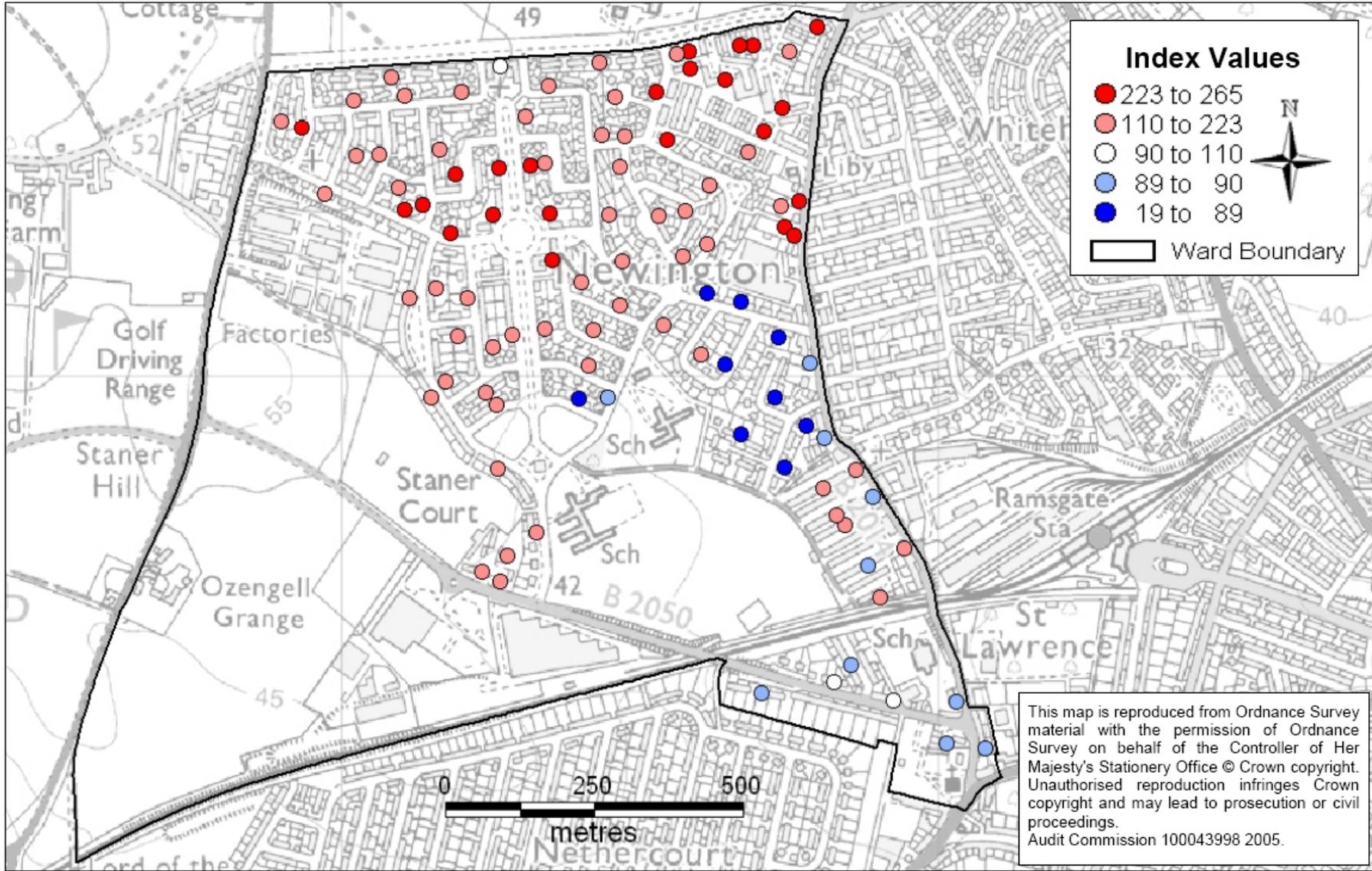
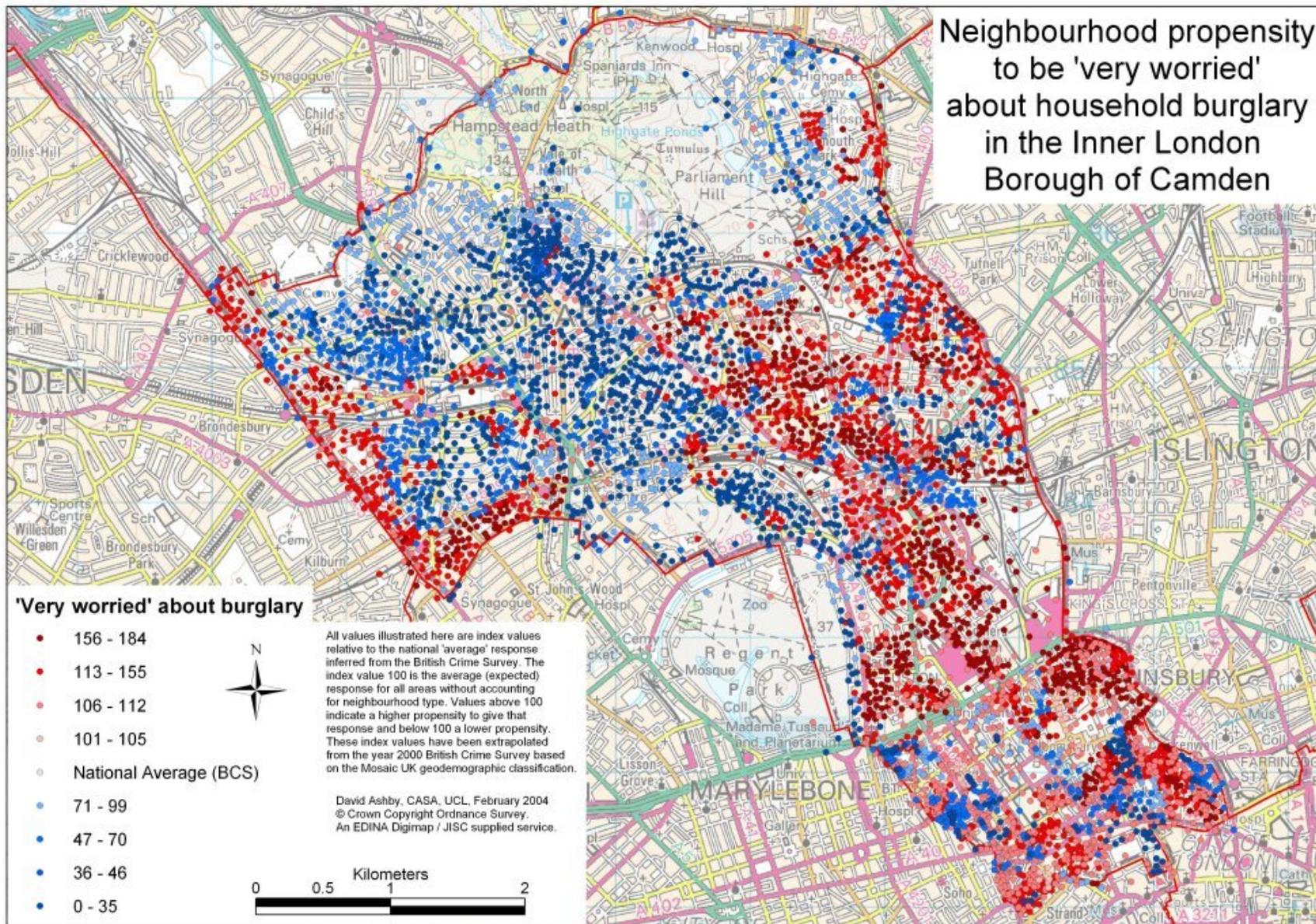


Figure 40: Modelled propensities: the relative likelihood of the resident population perceiving vandalism and graffiti as a very big problem within Newington, Thanet.



Neighbourhood propensity to be 'very worried' about household burglary in the Inner London Borough of Camden



| Question, prompt or theme | Response | Response | | | | | | | | | |
|---|---|----------|----------|------|------------|------------|--------------|-------------------|-----------|---------------|---------------|
| | | Anfield | Warbreck | Tong | Eccleshill | Pen-y-Waun | Talbot Green | Cliftonville West | Newington | Redruth North | Illogan South |
| How common are burnt out cars? | Fairly common | 118 | 110 | 133 | 117 | 142 | 71 | 54 | 125 | 100 | 92 |
| How common is people using or dealing in drugs? | Fairly common | 131 | 124 | 123 | 114 | 144 | 99 | 140 | 137 | 116 | 111 |
| How common is rubbish? | Very big problem | 159 | 134 | 152 | 128 | 184 | 71 | 118 | 161 | 116 | 102 |
| How common is vandalism and graffiti | Very big problem | 165 | 132 | 172 | 139 | 224 | 88 | 131 | 177 | 127 | 99 |
| Have bad effect on your life? | Teenagers hanging around on the streets | 153 | 143 | 140 | 134 | 177 | 87 | 99 | 139 | 123 | 113 |
| Feel safe walking alone after dark? | Very unsafe | 145 | 127 | 145 | 130 | 155 | 106 | 131 | 133 | 125 | 106 |
| How worried about burglary? | Very worried | 128 | 114 | 128 | 117 | 143 | 86 | 109 | 130 | 109 | 97 |
| How worried about having car stolen? | Very worried | 112 | 113 | 113 | 112 | 122 | 89 | 77 | 122 | 105 | 108 |
| How worried about being insulted or pestered? | Very worried | 125 | 107 | 128 | 114 | 139 | 82 | 82 | 128 | 99 | 89 |
| How worried about mugging? | Very worried | 127 | 113 | 127 | 116 | 144 | 89 | 109 | 126 | 108 | 96 |
| Interest shown by police | Inadequate | 114 | 108 | 112 | 108 | 120 | 95 | 114 | 113 | 106 | 101 |
| Nice place to live? | Very good place to live | 57 | 68 | 64 | 74 | 51 | 124 | 80 | 57 | 87 | 95 |
| Social capital | Neighbours help each other | 81 | 87 | 81 | 86 | 75 | 110 | 73 | 76 | 97 | 102 |
| Rating of police | Very good | 82 | 83 | 82 | 88 | 81 | 112 | 108 | 86 | 92 | 89 |

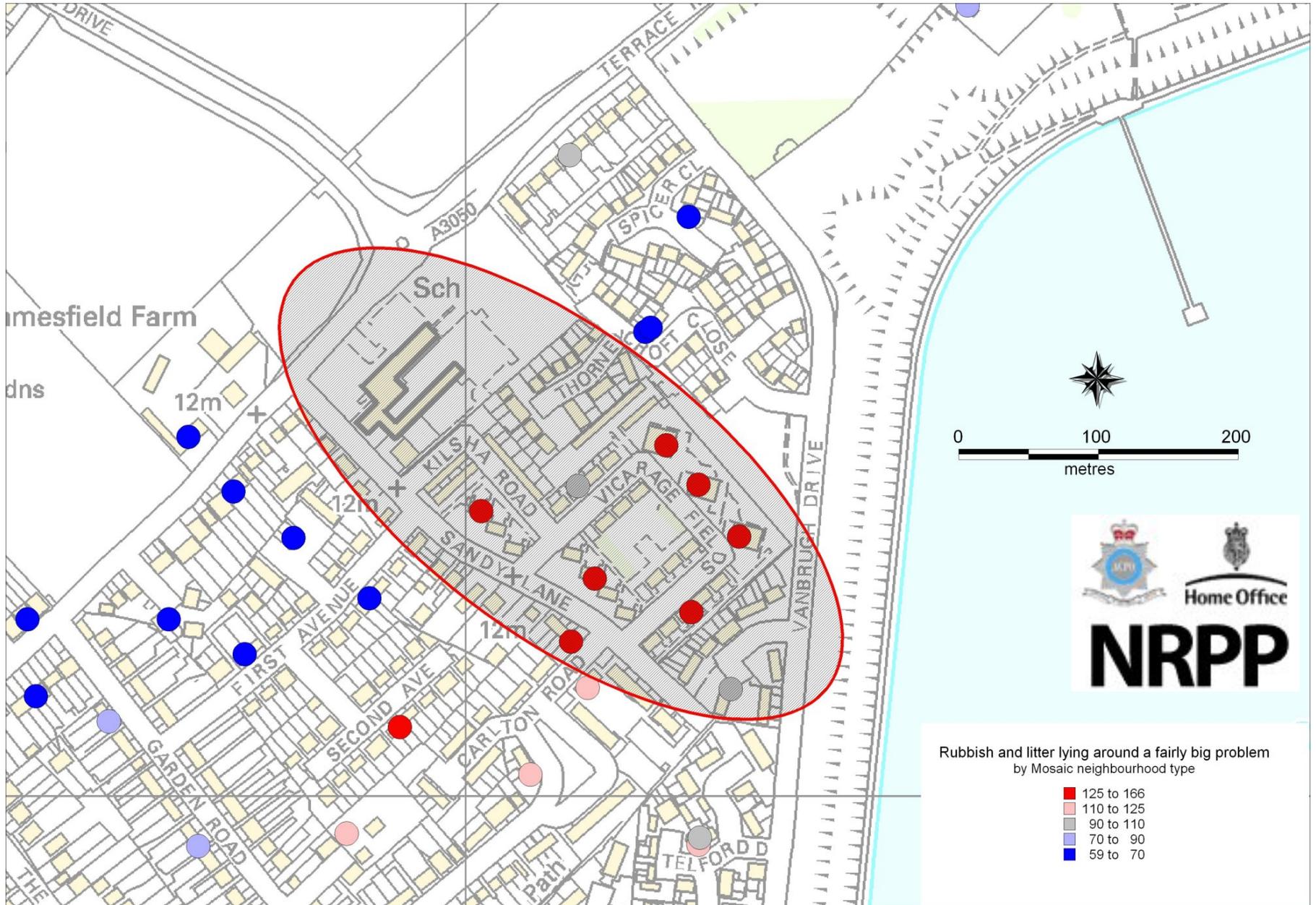
Table 12: Average index scores from the British Crime Survey profiles for the ten study wards.

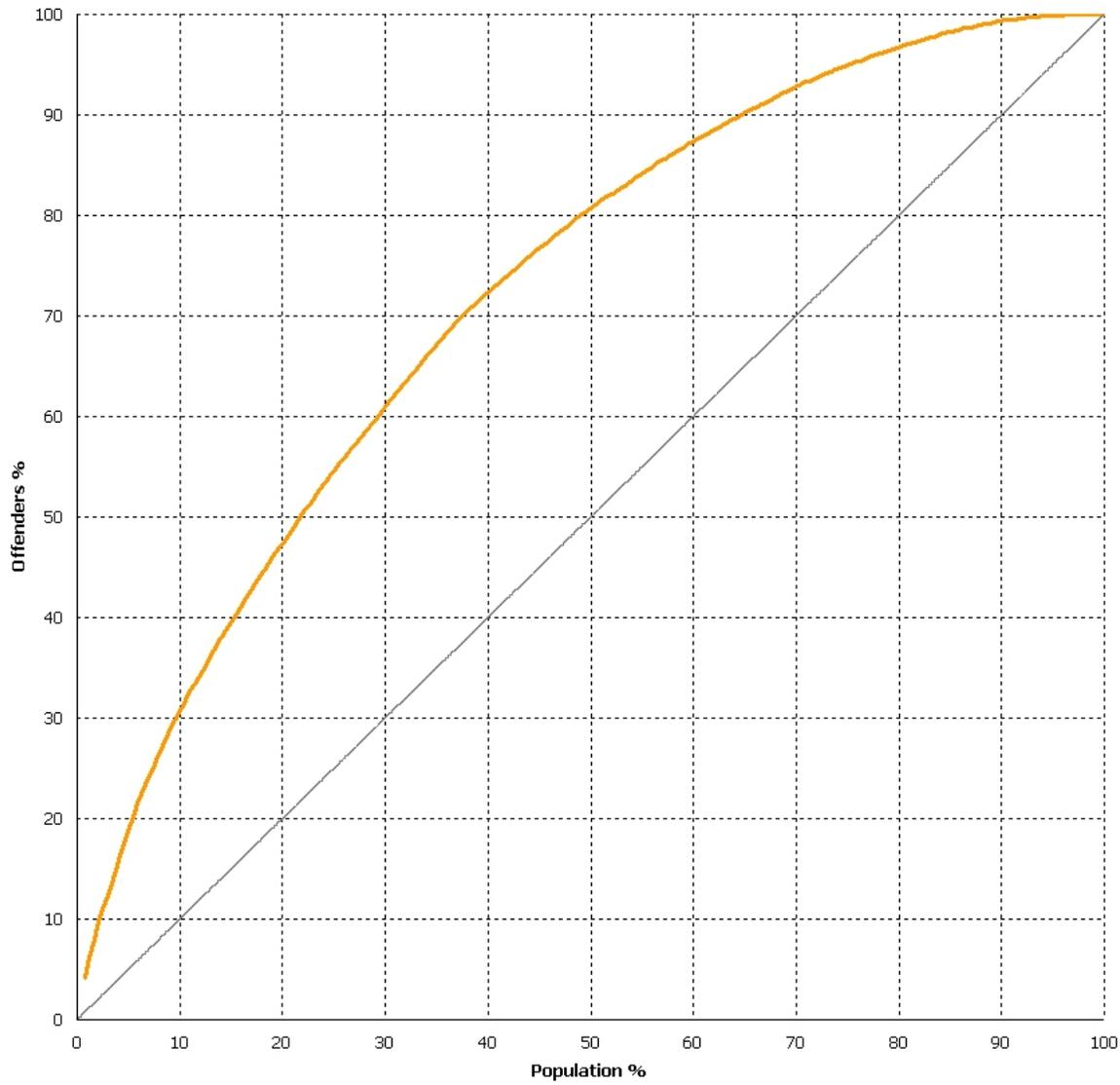


Recorded crime profiles

| Households (per cent) | | Number of burglaries | Percentage | Index Value |
|--------------------------|----------------------------------|-------------------------|------------|----------------|
| 7.1 | A: Symbols of Success | 77 | 4 | 63 |
| 9.2 | B: Happy Families | 135 | 8 | 85 |
| 14.7 | C: Suburban Comfort | 171 | 10 | 67 |
| 36.7 | D: Ties of Community | 648 | 37 | 102 |
| 1.7 | E: Urban Intelligence | 49 | 3 | 167 |
| 5.1 | F: Welfare Borderline | 159 | 9 | 180 |
| 8.2 | G: Municipal Dependency | 227 | 13 | 159 |
| 7.4 | H: Blue Collar Enterprise | 119 | 7 | 93 |
| 4.9 | I: Twilight Subsistence | 82 | 5 | 96 |
| 4.2 | J: Grey Perspectives | 65 | 4 | 90 |
| 0.9 | K: Rural Isolation | 3 | 0 | 18 |
| | Total | 1735 | 100 | |

Table 15: Burglary Dwelling profile for the Bradford CDRP

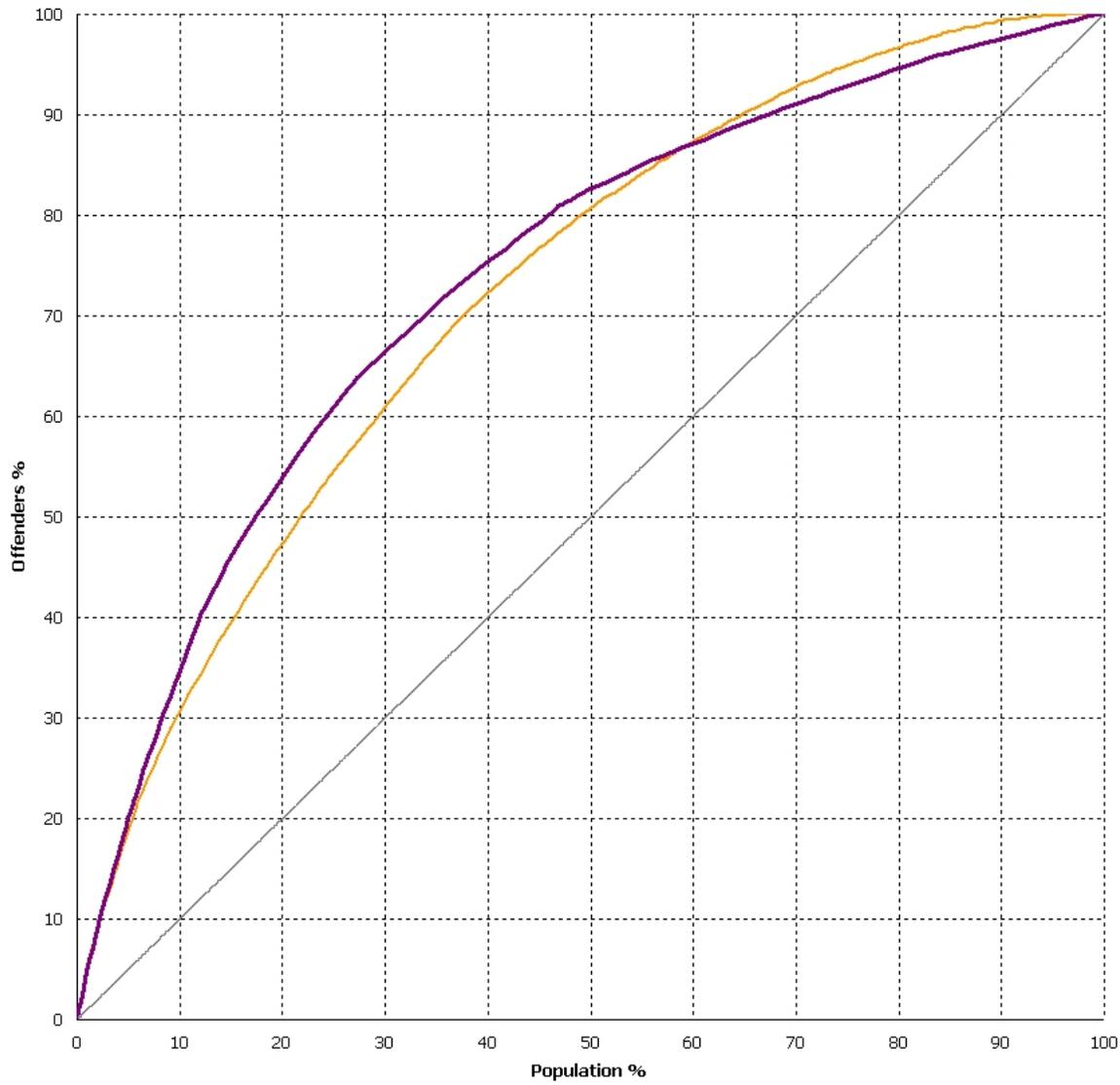




Lorenz Curve comparison

— Wards (n=152)

— Null Hypothesis



Lorenz Curve comparison

— Wards (n=152)

— Mosaic Types (n=61)

— Null Hypothesis



| MOSAIC UK GROUPS | Crime Profile | | | Social Capital | | | Summary | Appropriate policing strategies |
|--|---------------------------------------|-------------|-------------------------|---|---------------------------------|---|---|---|
| | Common crimes / disorders | Crime Level | Fear Level | Level of trust | Informal Contacts | Formal Association | | |
| A Symbols of Success | Fraud, Traffic Offences | Low | Low | Fairly high (excluding "Global Connections") | Low | High | Networks are often instrumental and not locally based | Engage with local representatives. Leaflet drops to communicate information and promote campaigns. |
| B Happy Families | Fraud, some marital violence | Moderate | Low | Fairly high | Moderate | Moderate | New communities tend to have shallow networks | Child safety orientation. School based programmes. |
| C Suburban Comfort | Traffic Offences | Low | Low | High | Quite high | High | Well established networks | Engage with local representatives. Establish 'Neighbourhood Watch' schemes. Leaflet drops to communicate information and promote campaigns. |
| D Ties of Community <i>{e.g. Anfield, Warbreck, Redruth North (part) and Illogan South (part)}</i> | Alcohol related; domestic violence | Average | Moderate - low | High among local residents: apprehensive of outsiders | Quite high | Quite high | Tends towards self policing. | Identify representatives and attempt to recognise parallel communities. Community Support Officers. Rapid response to environmental disorders such as abandoned cars. |
| E Urban Intelligence | Snatching; mugging; credit card theft | High | Considered fact of life | Low | Informal contacts are not local | Patchy : high for those who are not transient | Networks are often not local. Local networks are often transient and one dimensional. | Reliance on communications programmes; target hardening. Community Support Officers. |
| F Welfare Borderline | Drug dealing; youth crime; car crime | Very high | High | Low | Low | Very low | Low levels of social cohesion | Target hardening. Increased law enforcement. Partnership work with housing department and social services; Community Support Officers. |



| | MOSAIC UK GROUPS | Crime Profile | | |
|---|--|------------------------------------|-------------|----------------|
| | | Common crimes / disorders | Crime Level | Fear Level |
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| MOSAIC UK GROUPS | | Social Capital | | | Summary |
|------------------|--|---|-------------------|--------------------|---|
| | | Level of trust | Informal Contacts | Formal Association | |
| A | Symbols of Success | Fairly high (excluding "Global Connections") | Low | High | Networks are often instrumental and not locally based |
| B | Happy Families | Fairly high | Moderate | Moderate | New communities tend to have shallow networks |
| C | Suburban Comfort | High | Quite high | High | Well established networks |
| D | Ties of Community <i>{e.g. Anfield, Warbreck, Redruth North (part) and Illogan South (part)}</i> | High among local residents: apprehensive of outsiders | Quite high | Quite high | Tends towards self policing. |



| MOSAIC UK GROUPS | | Summary | Appropriate policing strategies |
|------------------|--|---|---|
| A | Symbols of Success | Networks are often instrumental and not locally based | Engage with local representatives. Leaflet drops to communicate information and promote campaigns. |
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Useful online resources

UCL Spatial-Literacy programme with neighbourhood profiling tips

www.spatial-literacy.org

The Audit Commission Neighbourhood Crime project site:

www.audit-commission.gov.uk/neighbourhoodcrime

The Audit Commission Neighbourhood Profiling Guide:

www.audit-commission.gov.uk/neighbourhoodcrime/profiling.asp

The section of the above Guide concerning geodemographics:

www.audit-commission.gov.uk/neighbourhoodcrime/profiling1.asp



Useful articles

Ashby, D.I. and Longley, P.A. (2005) **Geocomputation, Geodemographics and Resource Allocation for Local Policing**. *Transactions in GIS*, 9 (1): 53–72.

Williamson, T., Ashby, D.I. and Webber, R. (2005) **Young offenders, schools and the neighbourhood: a new approach to data-analysis for community policing**. *Journal of Community and Applied Social Psychology*, 15 (3): 203-228.

Ashby, D.I. (2005) **Policing Neighbourhoods: Exploring the Geographies of Crime, Policing and Performance Assessment**. *Policing and Society*, 15 (4): 435-469.

Williamson, T., Ashby, D.I. and Webber, R. (2006) **Classifying Neighbourhoods for Reassurance Policing**. *Policing and Society*, 16 (2): 189-218.

Ashby, D.I., Irving, B. and Longley, P. (2007) **Police Reform and the New Public Management Paradigm: matching technology to the rhetoric**. *Environment and Planning C: Government and Policy*, 25(2): 159–175.



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